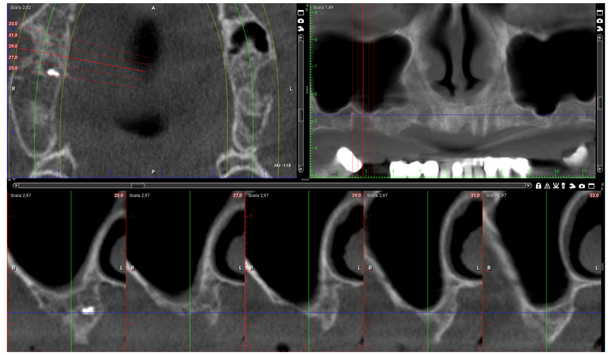
Graft Volumetric Changes Of Collagenated Xenograft For 3D Reconstruction Of Atrophic Maxillae

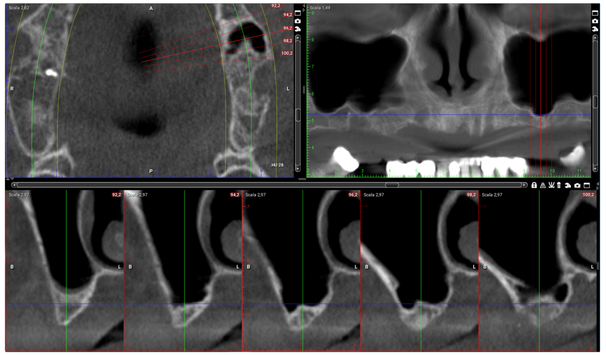


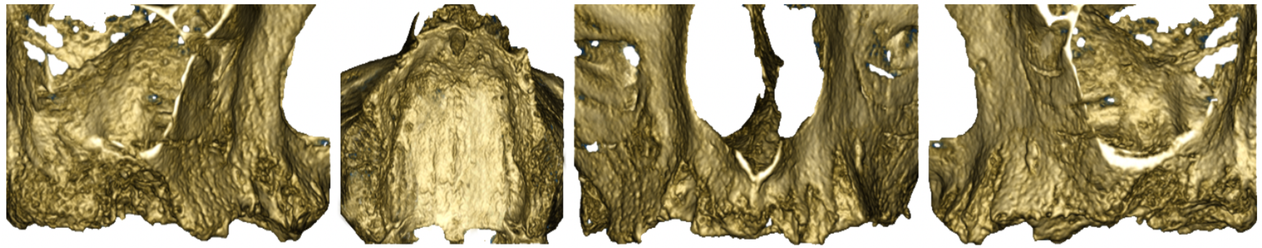
2022 Academy of Osseointegration
Annual Meeting
February 24, 2022 - February 26, 2022
Location: San Diego, CA

Giachi Carù F.[1] DDS MSc; Lo Faro L.[1] DDS; Mollicchi N.[1] DDS; Scaini R.[2] DDS MSc; Testori Tiziano[1-2-3] MD DDS MSc FICD

INTRODUCTION: Maxillary sinus elevation is a predictable, and well-documented method to increase bone volume for maxillary implant placement. This procedure may even increase bone quality by augmenting the sinus cavity with a bone graft material that generates a denser bone. The standard maxillary sinus elevation methodology involves creation of an external window, careful lifting of the sinus membrane, and packing the sinus floor under the lifted membrane with a bone graft.







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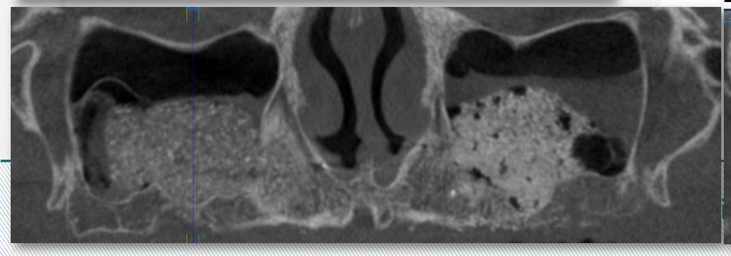
Graft Volumetric Changes Of Collagenated Xenograft For The 3D Reconstruction Of Atrophic Maxillae

Giachi Carù F.[1] DDS MSc; Lo Faro L.[1] DDS; Mollicchi N.[1] DDS; Scaini R.[2] DDS MSc; Testori Tiziano[1-2-3] MD DDS MSc FICD

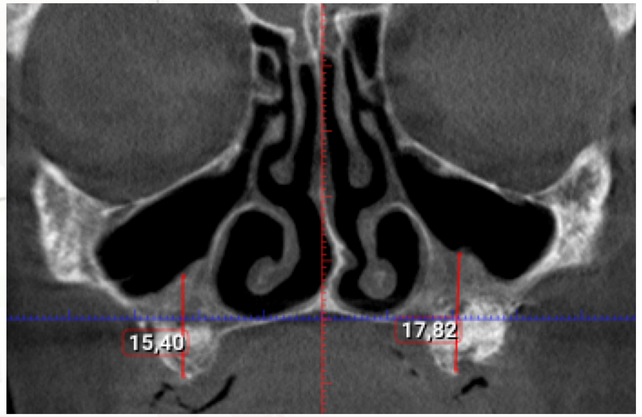
MATERIALS AND METHODS: The purpose of the study is to illustrate how the combination of different techniques, the correct use of bone substitutes and soft tissue management, can restore a maxillary arch and deliver a fixed implant supported prosthesis, as well as to evaluate the volumetric change of the bone substitute used over time

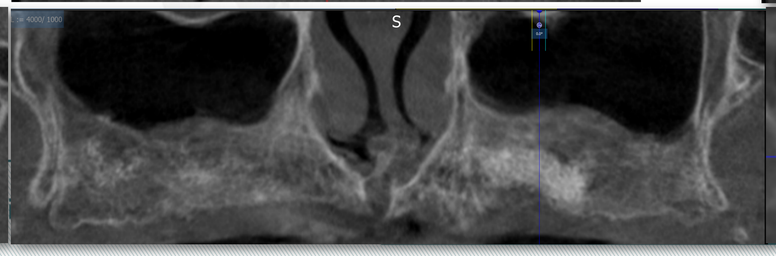
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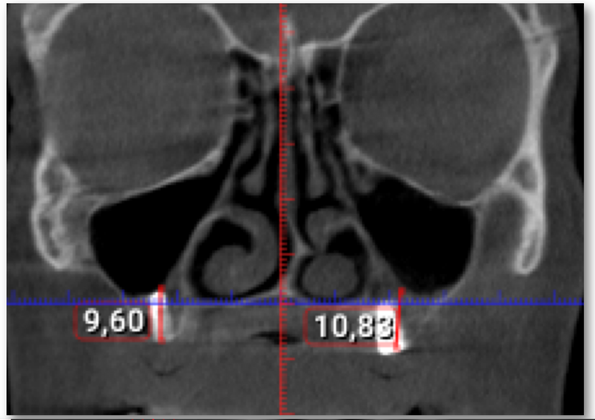


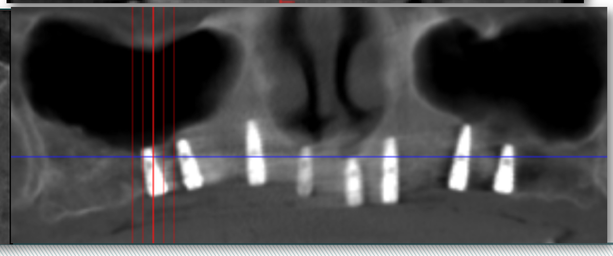
4-MONTH F.U.



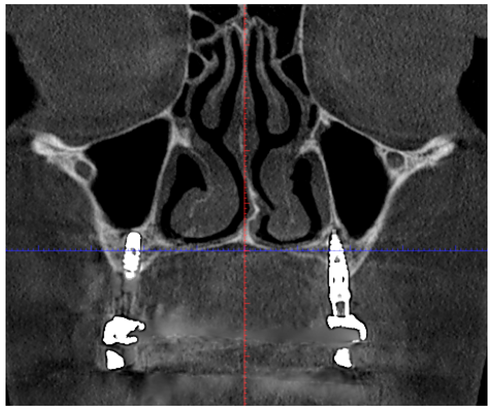


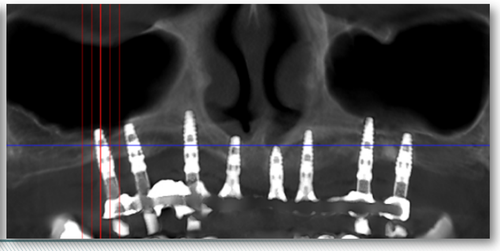
10-MONTH F.U.





27-MONTH F.U.





Graft Volumetric Changes Of Collagenated Xenograft For The 3D Reconstruction Of Atrophic Maxillae

Giachi Carù F.[1] DDS MSc; Lo Faro L.[1] DDS; Mollicchi N.[1] DDS; Scaini R.[2] DDS MSc; Testori Tiziano[1-2-3] MD DDS MSc FICD

RESULTS: In these two cases maxillary sinus elevation procedures through lateral access were successfully performed using a collagenated sticky bone substitute (GTO Osteobiol, Tecnoss Dental srl, Italy) or a prehydrated heterologous bone substitute (MP3 Osteobiol, Tecnoss Dental srl, Italy).

Horizontal augmentation was successfully performed using only the collagenated. They were able to increase vertical bone height and horizontal bone diameter and allowed for the placement of the requested implants. A follow-up panoramic radiograph was obtained.

The current result is in agreement with previous studies, as well as systematic reviews, illustrating implant survival rate and peri-implant bone level in the grafted bone are comparable to implants placed in native bone. Similar outcome is observed in implants placed in augmented sinuses.

GTO	1° Measurement	2° Measurement
Post-op	22,2 mm	21,61 mm
3 months of healing	15,61 mm	15,4 mm
6 months of healing	12,88 mm	13,20 mm
At the uncovering (10 months after)	9,63 mm	9,6 mm
Percentage of shrinkage after 3 months	(22,2-15,61)=6,59 mm = 29,7%	(21,61-15,4)=6,21 mm = 29,7%
Percentage of shrinkage after 6 months	(22,2-12,88)=9,32 mm = 42%	(21,61-13,2)=8,41 mm = 38,9%
Percentage of shrinkage after 10 months	(22,2-9,63)=12,57 mm = 56,6%	(21,61-9,6)=12,01 mm = 55,6%

MP3	1° Measurement	2° Measurement
Post-op	21,8 mm	25,2 mm
3 months of healing	17,6 mm	17,82 mm
6 months of healing	14,6 mm	14,82 mm
At the uncovering (10 months after)	10,81 mm	10,83 mm
Percentage of shrinkage after 3 months	(21,8-17,6)=4,2 mm = 19,3%	(25,2-17,82)=7,38 mm = 29,3%
Percentage of shrinkage after 6 months	(21,8-14,6)=7,2 mm = 33%	(25,2-14,82)=10,38 mm = 41,2%
Percentage of shrinkage after 10 months	(21,8-10,81)=10,99 mm = 50,41%	(25,2-10,83)=14,37 mm = 57,02%

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CONCLUSIONS: Complete atrophied maxillary reconstruction can be successfully achieved by means of guided bone regeneration for horizontal and/or vertical bone gain including bilateral sinus augmentation when a collagenated heterologous sticky bone substitute in combination with a prehydrated heterologous bone substitute are used. The morphology of these grafts resemble the anatomy of a natural sinus and having the same radiological appearance. Moreover, it appears that the best time to place the implants after sinus augmentation, during a delayed approach, might be around 4 months, to ensure as little graft resorption as possible. Peri-implant bone level in the completely reconstructed maxilla showed minimal changes. Furthermore, proper training in hard and soft tissue management is imperative to achieve successful outcomes and avoid potential complications



